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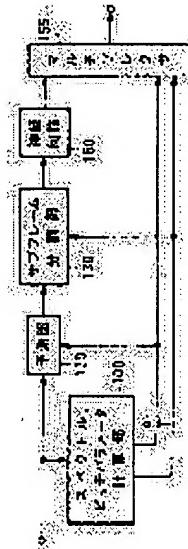
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## **(54) SOUND ENCODING AND DECODING SYSTEM**

### **(57)Abstract:**

PURPOSE: To obtain good synthetic sound quality which has small deterioration even when a bit rate is lowered by removing redundancy and a large dynamic range in a pitch cycle between samples of a sound signal previously by spectrum enveloping and pitch prediction, and then extracting features by a neural circuit and encoding and transmitting them.

CONSTITUTION: A spectrum and pitch parameter calculation part 100 analyzes a spectrum parameter showing the spectrum envelope of the sound signal and a pitch parameter showing the pitch cycle T from the sound signal. A prediction part 120 uses the spectrum parameter to predict a sound signal  $x(n)$  and finds a predicted residue signal  $e(n)$ . A subframe divider 130 uses the pitch parameter to divide the predicted residue signal into subframes whose length is equal to the pitch cycle T. A predicted residue signal  $e(n)$  in small sections has L samples inputted to the neural circuit 150 from the heads of the small sections in small-section intervals and the output value of an intermediate layer unit is outputted to a multiplexer 155. The excellent synthetic sound quantity is obtained by this system even at a bit rate of &le;10kb/s.



### **LEGAL STATUS**

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